

REMARKS

35 U.S.C. § 102(b) Rejections

The Examiner rejected independent claim 1 and related dependent claims 4-7, 9, 10, 12, 15, 18 and 19 under 35 U.S.C. § 102(b) "as being anticipated by Short et al. (US 5,161,535) [*Short*]." *Office Action*, 2. The Examiner made an identical rejection with regard to independent claim 21 and dependencies 24-28, 30, 31, 33, 36, 39 and 40; independent claim 42 and dependencies 45 and 46; independent claim 47 and dependencies 50-52; and independent claim 53. See *Office Action*, 2. Applicant respectfully traverses the Examiner's 35 U.S.C. § 102(b) rejection in that *Short* fails, in the least, to teach a **handheld** user interface. Additionally, *Short* fails to teach **means for automatically optimizing system settings**.

Handheld User Interface

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). The preamble of a claim and whether it imposes a limitation that must be evidenced by the prior art is a determination made on a case-by-case basis. See *Catalina Mktg. Int'l v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). "If the claim preamble, wherein read in the context of the entire claim, recites limitations of the claim . . . then the claim preamble should be construed as if in the balance of the claim." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999).

With regard to claim 1, the Examiner asserts *Short* to disclose "a user interface for an ultrasonic imaging system." *Office Action*, 2. *Short*, however, fails to disclose the Applicants' claimed "**handheld** user interface for an ultrasonic imaging system." Amendment A, supra 2; see also MPEP § 706.02(b) (concerning amending the claims to patentably distinguish the claims from a cited reference). *Short*, as can readily be seen in Figure 1, is a bulky and cumbersome wheeled ultrasound cart. *Short* differs significantly

from the present invention that seeks to overcome the limitations of the prior art, that is, “user interfaces [that] are cumbersome to operate” including “user interfaces requiring two hands to operate or transport resulting in encumbrance of using the system for real-time examination.” Specification, 5, l. 6-8. As *Short* fails to teach the claimed *handheld* user interface, Applicants assert the Examiner’s 35 U.S.C. § 102(b) rejection to have been overcome.

Auto-Optimization

Claim 1 recites “means for automatically optimizing system settings in accordance with a plurality of parameters.” Amendment A, supra, 2. An auto optimization mode invoked through, for example, an auto-optimization button, may cause the display of the handheld ultrasonic device to be optimized thereby making it easier to read information. Auto-optimization may include optimizing one or more of “gain, contrast, compression maps, adjusting the position of the image on the screen, edge enhancement, persistence, flash suppression, and/or baseline shift.” Specification, 42, l. 5-7.

The user may choose settings to determine how the optimization is performed. See Specification, 42, l. 8-9. For example, “[t]he display image may be monitored and either automatically update the settings to optimize the image or alert the user that an optimization may improve the viewing.” Specification, 42, l. 9-11. By further example, in an embodiment of the present invention, “gray scale is automatically selected for the display pixels such that the highest signal values of the transducer pixels are displayed using highest display pixel values.” Specification, 42, l. 12-14. In yet another example, in an embodiment of the present invention, auto optimization may be achieved through “setting the dynamic range the display pixel values to span the range of transducer pixel signal values between an average maximum value and a minimum value, thereby filtering out noise and high intensity artifacts.” Specification, 42, l. 14-17.

There is no teaching in *Short* with regard to means for automatically optimizing a handheld user interface in accordance with a plurality parameters. As a claim is

anticipated only if each and every element is set forth, Applicants assert the Examiner's 35 U.S.C. § 102(b) rejection is overcome. See *Verdegaal Bros.*, 814 F.2d at 631.

As the Examiner made identical rejections with regard to independent claim 21 and dependencies 24-28, 30, 31, 33, 36, 39 and 40; independent claim 42 and dependencies 45 and 46; independent claim 47 and dependencies 50-52 and independent claim 53, Applicant respectfully traverses these rejections for at least the same reasons as set forth in the context of claim 1. See *Office Action*, 2.

35 U.S.C. § 103 Rejections

The Examiner rejected claims 2, 3, 8, 11, 13, 14, 16, 17, 20, 22, 23, 29, 32, 34, 35, 37, 38, 41, 43, 44, 48 and 49 under 35 U.S.C. § 103(a) "as being unpatentable over Short et al. (US 5,161,535) in view of Weisman et al. (US 6,674,879 B1) [*Weisman*]." *Office Action*, 5. Each of these claims depends—either directly or via an intermediate dependent claim—upon independent claims 1, 21, 42 and/or 47. Applicants have previously evidenced the allowability of these independent claims.

A dependent claim incorporates each and every limitation of the claim from which it depends. See 35 U.S.C. § 112, ¶ 4. As Applicants contend the Examiner fails to anticipate any of the aforementioned independent claims, Applicants contend the present dependent claims are novel for at least the same reasons. Furthermore, if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is also nonobvious. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Additionally, in making an obviousness rejection, "[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under **no obligation to submit evidence of nonobviousness.**" MPEP § 2142 (emphasis added). To establish a *prima facie* case of obviousness, an examiner must: (1) evidence "some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference

teachings”; (2) there must be a “reasonable expectation of success”; and (3) all the claimed limitations must be taught as a result of the combination. MPEP § 2143.

Applicant asserts that the Examiner has not established a *prima facie* case of obviousness in that the Examiner (1) fails to evidence a suggestion or motivation to combine the references; (2) fails to evidence any expectation of success; (3) notwithstanding motivation and expectation of success, all the claimed limitations are not taught (*e.g.*, a handheld user interface and auto-optimization). The Examiner merely asserts “it would have been obvious to [one] of ordinary skill in the art to modify Short’s user interface so that it would be adapted to receive voice input and display text annotation, patient information and resize image (*sic*) in order to improve ultrasonic diagnostic capabilities.” *Office Action*, 5. This statement falls short of the requirement that the teaching or suggestion to make the claimed combination and expectation of success must *both* be found in the prior art. See, *e.g.*, *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991); see also *In re Jones*, 938 F.2d 347 (Fed. Cir. 1992).

For example, *Short* “provides a control panel for a medical ultrasound imaging system which offers the user the control simplicity of a reduced set of control functions for each ultrasound mode (control set) while allowing the user instant access to any control set regardless of the current system mode.” *Short*, col. 1, l. 60-65. *Weisman*, on the other hand, “desire[s] to provide a user-friendly echocardiography workstation that improves image quality, provides automatic edge detection, quantitates endocardial wall movement, corrects for cardiac translation, calculates 3-D left ventricle volume, and assists the physician with the interpretation of echocardiograms. [*Weisman*] **has been designed to meet these needs in the art.**” *Weisman*, col. 2, l. 35-42 (emphasis added). *Short* and *Weisman*, as can be seen, seek to achieve entirely different objectives: operational and control simplicity versus improved image quality. As such, the Applicants contend there to be a lack of suggestion to combine as required by *In re Vaeck* and the 35 U.S.C. § 103(a) objection is overcome absent the Examiner providing a proper *prima facie* case of obviousness. The Examiner has also failed to evidence *any* discussion

of expectation of success resulting from the combination of *Short* and *Weisman* further evidencing the absence of a *prima facie* case of obviousness.

CONCLUSION

Applicants contend all independent claims are novel over *Short* in that *Short* fails to disclose a handheld user interface as well as an auto-optimization feature.

Applicants further contend all claims to be non-obvious as they depend upon otherwise novel and/or non-obvious subject matter.

Applicants further contend the Examiner has fails to make a *prima facie* case of obviousness with regard to the motivation to combine the *Short* and *Weisman* references in addition to the expectation of success in combining the same.

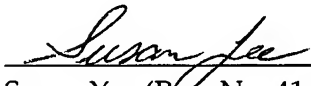
As such, the Applicants contend the present application to be in condition for allowance.

The Examiner is invited to contact the Applicants' undersigned representative with any questions concerning the present application.

Respectfully submitted,
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